2.0 Burrell, Pennsylvania, Disposal Site

2.1 Compliance Summary

The Burrell Disposal Site, inspected on October 28, 2003, was in excellent condition. The derelict access gate at Strangford Road was removed, and vegetation along the security fence and access routes to the monitor wells was cut. Infestations of knapweed and poison hemlock, both undesirable species, were identified on the site and will require control. No requirement for a follow-up or contingency inspection was identified.

2.2 Compliance Requirements

Requirements for the long-term surveillance and maintenance of the Burrell, Pennsylvania, Uranium Mill Tailings Radiation Control Act (UMTRCA) Title I disposal site are specified in the *Long-Term Surveillance Plan for the U.S. Department of Energy Burrell Vicinity Property, Blairsville, Pennsylvania* (GJO−2002−331−TAR, U.S. Department of Energy (DOE) office at Grand Junction, April 2000, revised) and in procedures established by the DOE office at Grand Junction to comply with requirements of Title 10 *Code of Federal Regulations* Part 40.27 (10 CFR 40.27). These requirements are listed in Table 2–1.

Table 2–1. License Requirements for the Burrell, Pennsylvania, Disposal Site

Requirement	Long Term Surveillance Plan	This Report
Annual Inspection and Report	Section 3.3	Section 2.3.1
Follow-up or Contingency Inspections	Section 3.5	Section 2.3.2
Routine Maintenance and Repairs	Section 3.6	Section 2.3.3
Ground Water Monitoring	Section 3.7	Section 2.3.4
Corrective Action	Section 3.6.3	Section 2.3.5

2.3 Compliance Review

2.3.1 Annual Inspection and Report

The site, located southeast of Blairsville, Pennsylvania, was inspected on October 28, 2003. Results of the inspection are described below. Features and photograph locations (PLs) mentioned in this report are shown on Figure 2−1. Numbers in the left margin of this report refer to items summarized in the Executive Summary table.

2.3.1.1 Specific Site Surveillance Features

Site Access, Fence, Gates, and Signs—An access road leads from Strangford Road to the security fence at the site boundary. The former access gate at Strangford Road was unsuccessful in keeping people off the access road and out of the areas adjacent to the site, and was open and heavily damaged at the time of the 2002 inspection. DOE determined that limiting site access at Strangford Road did not enhance site security or protectiveness, and received concurrence from the U.S. Nuclear Regulatory Commission on April 28, 2003, to remove the gate. The gate was
2A removed prior to the 2003 inspection (PL–1). The hard-packed graveled access road runs southwest across DOE's perpetual right-of-way (Tract 201–E) and DOE's leased crossing over Norfolk Southern Railroad right-of-way to the site. There were shallow potholes in the road but it was easily passable in a passenger car.

The security fence is chain link with three strands of barbed wire on top. The fence, installed after DOE acquired the site in 1986, is rusty at many places but remains secure. Inspectors removed small limbs that had fallen across the fence. Vegetation had been cleared along accessible portions of the fence. Service life expectancy of the fence in the damp climate along the Conemaugh River is expected to be 25 to 30 years. Both gates in the fence—a vehicle entrance gate at the east end of the site and a personnel gate at the west end—were locked and in excellent condition.

The entrance sign and 17 perimeter signs are attached to the security fence. Historically, the signs along the northern perimeter fence (P1 through P8) are subject to bullet damage. All of those signs were replaced after the 2001 inspection and, although some have new bullet holes, were legible. Because access to the other side of the site is more difficult, the remaining perimeter signs except P16 were in good condition. The reflective material is peeling off of P16 and the sign will be replaced in 2004.

Site Markers and Monuments—The site has one site marker, which is at the east end of the site near the entrance gate. Vegetation around the site marker is cleared annually. Other Title I disposal sites have two site markers. The revised Long-Term Surveillance Plan recognizes the missing site marker as an acceptable variance from DOE's project design.

The site has seven boundary monuments and three survey monuments. Because of dense vegetation and soil accumulation, several of the monuments typically are difficult to locate. However, all of the monuments were found and were in good condition. Three of the boundary monuments were covered by soil and were unearthed. To assist in future inspections, white PVC pipe was placed over the iron pipes that mark the survey monument locations.

Four pairs of erosion control markers are located in dense stands of Japanese knotweed, where they are usually difficult to find. At the time of the inspection the knotweed had died back for the season and all of the markers were readily located. No stream bank erosion was evident.

Monitor Wells—The site has four pairs of monitor wells, and all were in good condition. The lock was missing on MW−0423 and was replaced. Corridors to the wells are mowed annually to maintain access to and provide working space around the wells. Vegetation has re-established where two monitor wells were decommissioned in 2002, and no additional restoration work is required.

2.3.1.2 Transects

To ensure a thorough and efficient inspection, the site was divided into four areas referred to as transects: (1) the disposal cell; (2) the area between the disposal cell and site boundary; (3) the site perimeter; and (4) the outlying area.

Disposal Cell—The top and side slopes of the disposal cell are covered with riprap and were in excellent condition. There was no evidence of settling, slumping, or other indications of instability.

Trees and shrubs continue to establish in the riprap (PL−2). In the past, this vegetation was aggressively controlled with massive applications of herbicide. A study that evaluated risks posed by encroachment of plants on the disposal cell demonstrated that the plants will not degrade the long-term performance of the cell and may improve performance by reducing moisture in the cover through evapotranspiration.

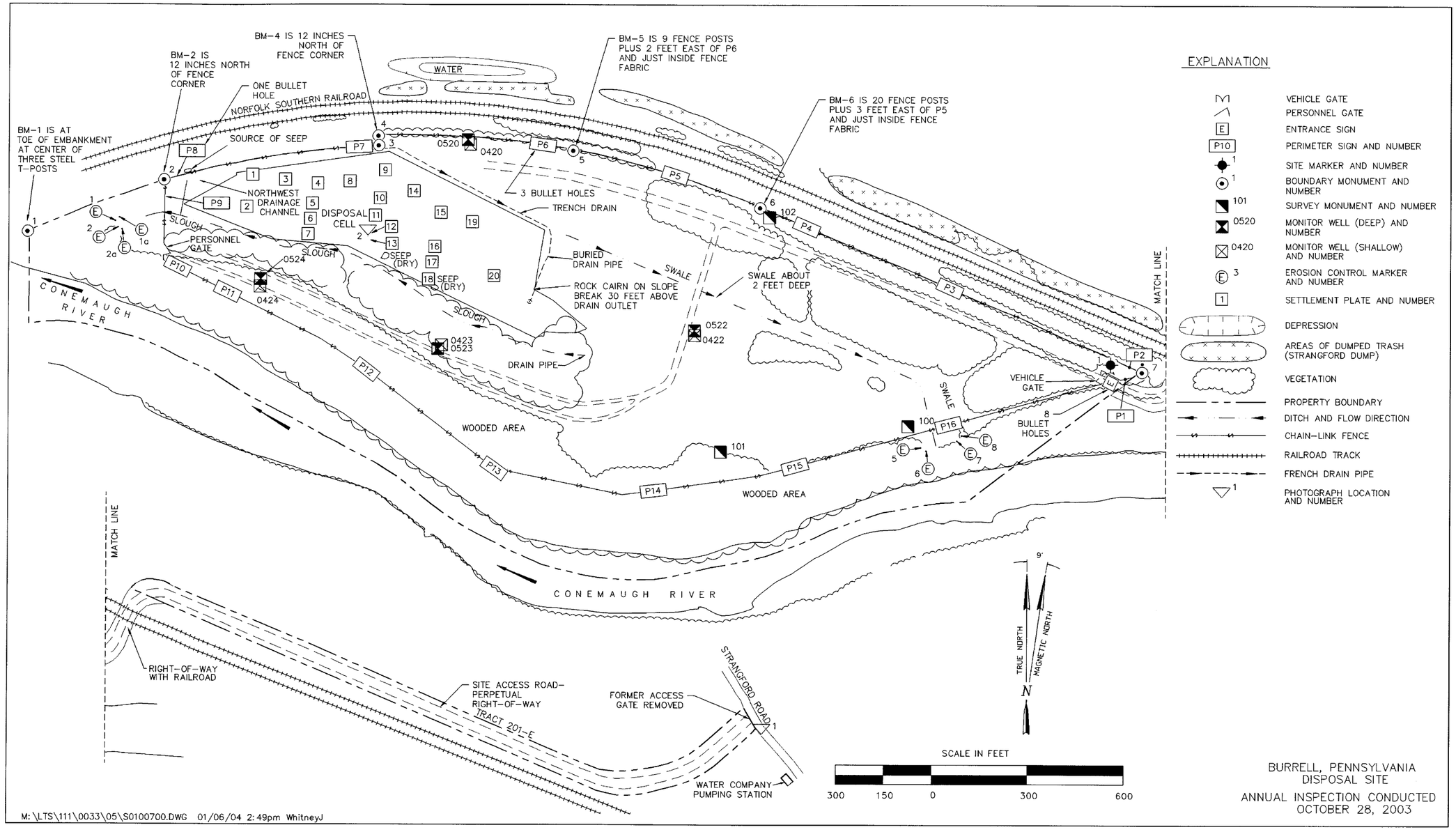

Figure 2–1. 2003 Annual Compliance Drawing for the Burrell, Pennsylvania, Disposal Site

The revised Long-Term Surveillance Plan allows the vegetation to grow on the disposal cell without further intervention; such growth will not increase risk to public health, safety, or the environment. In their concurrence in the revised Long-Term Surveillance Plan, the U.S. Nuclear Regulatory Commission suggested that DOE reevaluate the effects of vegetation on cover performance in 10 or 20 years to confirm performance parameters and predictions.

A patch of spotted knapweed was found on the crest of the cell. DOE will identify and implement a method to control this undesirable weed.

Seeps previously found along the base of the south side slope were found to be dry. In 1998, DOE installed a perforated pipe and a gravel-filled trench drain along the northern edge of the disposal cell to improve drainage. It was suspected that water flowing in the seeps originated in a low-lying area north of the disposal cell. The reduced and usually absent flow at the seeps since the drain was installed suggests that the drain is diverting water that otherwise would flow beneath the disposal cell to the seeps.

At the time of the 2003 inspection, the area along the drain was dry and no water was flowing from the outlet. The wire fabric was intact in the drain outlet. Water has never been observed flowing from the outlet since the system was installed, perhaps because water is absorbed by the material through which the trench passes. Inspectors placed a sleeve of PVC pipe over the existing iron pipe at the drainage pipe outlet, which was hard to locate in the progressively more dense vegetation establishing in the area. The slough at the foot of the disposal cell, fed by ground water, was flowing normally.

Area Between the Disposal Cell and Site Boundary—The area surrounding the disposal cell and inside the security fence is covered by thick grass and thickets of woody plants. Spotted knapweed, observed in past inspections in the adjacent railroad right-of-way, has spread across most of the DOE property and currently is interspersed with native desirable plants. The
2B knapweed is not a listed noxious species in Pennsylvania but is recognized as an invasive species. It seems to be out-competing desirable species on the site and in some places is creating a monoculture. To comply with federal invasive species directives and to maintain plant diversity on the property, DOE added knapweed control to the scope of routine maintenance activities at the site after the 2001 inspection. Effective control measures based on advise from local weed control experts are being evaluated. DOE asked the Norfolk Southern Railroad to control the knapweed on their property also. The railroad sprayed the weeds on their property in 2001, and DOE will request additional spraying in 2004.

Poison hemlock was identified along the access routes to monitor wells MW−0423 and MW−0424. This biennial weed is not a listed noxious species in Pennsylvania; however, it poses a safety hazard to personnel who must walk through or work within infested areas, as all plant parts are poisonous. DOE is evaluating effective control measures for this plant also.

2C **Site Perimeter**—A 5-foot-wide swath was mowed on both sides of the fence in September 2003. DOE also clears woody vegetation from the fence as necessary. DOE has been conducting this maintenance annually to improve access to the fence and prolong its service life. Mowing and clearing will be repeated every 2 to 3 years, or as necessary, to keep the fence clear of vegetation.

Seeps along the security fence, located about 60 feet east of perimeter sign P8 and immediately west of the disposal cell, were flowing. Significant amounts of water were observed in these

areas, along with the presence of wetland-type vegetation (e.g., cattails and willows). The seeps will continue to be monitored to ensure they do not pose a threat to the integrity or performance of the disposal cell.

Canada thistle, a state-listed noxious weed, was identified on railroad property near boundary monument BM–2. DOE may need to control this weed to prevent its spread onto their property.

Outlying Area—The area beyond the site boundary for a distance of 0.25 mile was visually inspected for signs of erosion, development, and other changes that might affect the site. North of the site and the railroad tracks, a dirt road provided access to the decommissioned monitor wells. This road also provides access to a long, narrow wooded area along the tracks that has been used for unpermitted dumping. Dumping appears to have decreased in recent years, but there was evidence of new debris in 2003. Although this activity is not a direct threat to the disposal site, the amount of dumping is an indication of the overall level of activity near the disposal site and may be a predictor of vandalism. Therefore, conditions at the dump will continue to be monitored. Other areas around the site remained unchanged.

2.3.2 Follow-Up or Contingency Inspections

No follow-up or contingency inspections were required in 2003.

2.3.3 Routine Maintenance and Repairs

In 2003, DOE removed the Strangford Road access gate and cleared vegetation from fence lines and monitor well access routes.

2.3.4 Ground Water Monitoring

DOE monitors ground water at this site, as a best management practice, to evaluate the effectiveness of the remedial action. The revised Long-Term Surveillance Plan stipulates monitoring every 5 years. No monitoring was required in 2003; DOE will sample ground water again in 2006. 2D

2.3.5 Corrective Action

Corrective action is action taken to correct out-of-compliance or hazardous conditions that create a potential health and safety problem or that may affect the integrity of the disposal cell or compliance with 40 CFR 192.

No corrective action was required in 2003.

2.3.6 Photographs

Table 2–2. Photographs Taken at the Burrell, Pennsylvania, Disposal Site

Photograph Location Number	Azimuth	Description
PL–1	270	Location of the former access gate at Strangford Road.
PL–2	45	Vegetation on the south slope of the disposal cell.

BUR 10/2003. PL–1. Location of the former access gate at Strangford Road.

BUR 10/2003. PL–2. Vegetation on the south slope of the disposal cell.

End of current section